AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

Toward a New 'New Triad'

by

Heidi A. Paulson, Lieutenant Colonel, USAF

A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

Advisor: Dr. John T. LaSaine, Jr.

Maxwell Air Force Base, Alabama

April 2009

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
APR 2009	**N/A**	**-**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Toward a New New Triad	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **Air Command And Staff College Air University Maxwell Air Force Base, Alabama**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release, distribution unlimited

13. SUPPLEMENTARY NOTES
The original document contains color images.

14. ABSTRACT

The 2009 Nuclear Posture Review (NPR) is underway, providing the new administration with an opportunity to thoroughly examine the nuclear deterrence role in national security. A healthy understanding of the historical role of nuclear deterrence coupled with the examination of the last two NPRs reveals the necessity to revise the Department of Defenses New Triad. This New Triad, introduced formally in the 2001 NPR, shifts the deterrence emphasis away from nuclear weapons to a combined approach to global deterrence based on global strike, defense and infrastructure capabilities. While this is a valuable approach for addressing the disparate and myriad threats to national security, it directs attention away from the nuclear mission and its unique role in national security. There have been two nuclear posture reviews accomplished since the end of the Cold War. Each of these NPRs failed to adequately resolve what the role of nuclear deterrence should be within the overall national security strategy. Rather than specifically addressing the unique role of nuclear deterrence they each in their own way shifted away from specific nuclear deterrence toward more generalized global deterrence. The next nuclear posture review has the opportunity to refocus the nations attention on the unique role of nuclear deterrence, particularly in light of the recent nuclear mishaps within the Department of Defense. An historical analysis of nuclear deterrence strategy and the recent nuclear posture reviews will aid in helping to address some of the root causes of the nuclear enterprise problems. Ultimately, the ‗New Triad presented in the latest NPR must be adjusted to properly reflect the fundamental role nuclear weapons will play in the new national security concept of global deterrence.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**SAR**	**34**	

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std Z39-18

Disclaimer

Contents

Abstract

The 2009 Nuclear Posture Review (NPR) is underway, providing the new administration with an opportunity to thoroughly examine the nuclear deterrence role in national security. A healthy understanding of the historical role of nuclear deterrence coupled with the examination of the last two NPRs reveals the necessity to revise the Department of Defense's New Triad. This New Triad, introduced formally in the 2001 NPR, shifts the deterrence emphasis away from nuclear weapons to a combined approach to global deterrence based on global strike, defense and infrastructure capabilities. While this is a valuable approach for addressing the disparate and myriad threats to national security, it directs attention away from the nuclear mission and its unique role in national security.

There have been two nuclear posture reviews accomplished since the end of the Cold War. Each of these NPRs failed to adequately resolve what the role of nuclear deterrence should be within the overall national security strategy. Rather than specifically addressing the unique role of nuclear deterrence they each in their own way shifted away from specific nuclear deterrence toward more generalized global deterrence. The next nuclear posture review has the opportunity to refocus the nation's attention on the unique role of nuclear deterrence, particularly in light of the recent nuclear mishaps within the Department of Defense.

An historical analysis of nuclear deterrence strategy and the recent nuclear posture reviews will aid in helping to address some of the root causes of the nuclear enterprise problems. Ultimately, the 'New Triad' presented in the latest NPR must be adjusted to properly reflect the fundamental role nuclear weapons will play in the new national security concept of global deterrence.

Introduction

The nation's nuclear enterprise has suffered from neglect over the past two decades resulting in some unfortunate mistakes. Two incidents were especially egregious and illustrate what can happen when the enterprise is neglected. The first incident was the mistaken shipment of Minuteman III Intercontinental Ballistic Missile (ICBM) nosecone components to Taiwan which took over a year to discover. The second incident involved 'Loose Nukes', as the press became fond of calling it. A B-52 crew unknowingly transported six nuclear-armed cruise missiles from Minot AFB, ND to Barksdale AFB, LA.[1] Despite numerous reports identifying atrophy in the nation's nuclear enterprise, it took these two incidents to wake up national leadership, ultimately contributing to the firing of the two top Air Force leaders. In the investigation reports that followed, defense officials discovered what many nuclear professionals had sensed, "a serious erosion of focus, expertise, mission readiness, resources, and discipline in the nuclear weapons enterprise within the Air Force."[2] After deeper analysis, the Department of Defense (DoD) investigators found that the neglect goes beyond the USAF and even DoD. The neglect of the enterprise started at the highest levels and is prevalent throughout all levels of military and national leadership. Since the end of the Cold War, national leadership has failed to think about nuclear strategy.[3]

Fortunately, the recent missteps within the nuclear enterprise have given rise to a renewed interest in nuclear deterrence and its role in the nation's national security strategy. On a national level, in the last year the Secretaries of Defense, Energy and State have jointly taken steps to address the atrophy within the nuclear enterprise.[4] Additionally, the National Security Council has an opportunity now with the new administration and Congress' call for a new

Nuclear Posture Review (NPR) to re-examine the nuclear enterprise and clearly identify its role in national security.

A healthy understanding of the historical role of nuclear deterrence coupled with the examination of the last two NPRs reveals the necessity to revise the 'New Triad' to more clearly represent the nuclear deterrence role in the overall strategy of global deterrence. It is the intent of this paper to help lay a foundation for the understanding of nuclear deterrence strategy. Then it will step through a history of the evolution of nuclear deterrence policy from the Truman administration to today's post-Cold War environment. The paper will conclude with a discussion of the current state of US nuclear deterrence strategy resulting in a final recommendation for the United States to adjust the current global deterrence triad, clearly identifying the role of nuclear deterrence.

Defining Deterrence

The concept of deterrence is not new to strategists, military and otherwise, and has existed throughout military history. However, soon after the first two detonations of an atomic bomb over enemy territory, it became obvious that traditional deterrence theory was inadequate for the nuclear age. Bernard Brodie, one of the founding fathers of nuclear deterrence strategy, wrote "thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them."[5] In other words, the only possible utility for the existence of nuclear weapons can be to deter our adversary.

"In a condition of mutually assured destruction, defense is impossible. Given this…assumption, nuclear deterrence theory has generally linked force or the threat of it to states' attempts to further their ends."[6] Thus, the objective of deterrence is to alter the decision

calculus of the enemy such that they are deterred from taking actions counter to US national interests. Throughout the development of deterrence theory in the nuclear age, the underlying factor necessary for deterrence to be effective is credibility. "If there was to be a strategy of deterrence, it had to be credible."[7] Thus nuclear deterrence requires a credible threat of retaliation for aggressive acts against the nation. This means that not only does the United States have to possess the ability to respond, its adversaries must perceive that the United States has the political will to actually respond by using its retaliatory capabilities.

The concept of deterrence continued to be applied almost exclusively to nuclear strategy throughout the Cold War. Not until the 2001 Nuclear Posture Review did the United States begin to once again widen its definition and attempt to apply it beyond the nuclear battle ground. Currently, within the Department of Defense, the definition of deterrence has been expanded beyond the nuclear construct to apply at a strategic level encompassing all elements of military power. The Strategic Deterrence Joint Operating Concept (SD JOC) published in 2004 and revised in 2006 now incorporates nuclear weapons as one part of the strategic deterrent arsenal but with no discussion on the unique nature of nuclear deterrence.[8] Strategists should be cautioned not to draw strict parallels between conventional and nuclear deterrence. In fact, the SD JOC 2004 broadly addresses this fact in its assumptions, but fails to clearly distinguish nuclear and conventional deterrence. "The deterrent strategies that restrained nations during the Cold War do not necessarily apply in all cases today and may not apply in 2015. Improperly-applied 'lessons learned' could, if not repudiated, foster 'negative training' within the joint force."[9] The nature of nuclear weapons provides for a unique application of deterrence which has evolved over the years following the invention of the most destructive device known to man. The evolution of nuclear deterrence policy over these years is the subject of the following pages.

Nuclear Deterrence Strategy: An Historical Perspective

The Truman Years

As WWII came to a close, there were many issues for the United States to deal with, not the least of which was determining the future role of the newly developed weapon of mass destruction, the atomic bomb. One of President Truman's first post-World War II decisions involved the 'military control' of nuclear weapons. Following the demonstration of the sheer destructive nature of the atomic bomb at Hiroshima and Nagasaki, Truman no longer felt comfortable leaving control of these ominous weapons in the hands of the military. "Truman demanded a sharp break from past practice. He insisted that a civilian agency, not the military, control access to atomic bombs and their future development."[10] Truman's insistence that civilian leadership would be the sole authority for the release of nuclear weapons was codified in the National Security Council 30 (NSC-30) document. "[T]he decision as to the employment of atomic weapons in the event of war is to be made by the Chief Executive."[11] The civilian influence on nuclear weapons policies, however, went beyond the chief executive. Due to the unique nature of nuclear weapons, their role in national security became an issue for national leaders and influential civilian analysts many of which were employed by RAND Corporation. RAND is a private organization created following WWII to take advantage of "the wide range of scientists and academics outside the military."[12] The likes of Bernard Brodie, Thomas Schelling, Albert Wohlstetter, and Herman Kahn were civilians who "intruded into domains once occupied solely by the professional military. The art of combat lost its relevance when the aim was to deter."[13] The nuclear weapon became the ultimate political tool and the United States had to determine how to best utilize it.

In the immediate years following WWII, the United States enjoyed a monopoly in the atomic weapons arena. While it was suspected that the Soviets were developing their own version of an atomic bomb, the main concern was the threat of Communism and how to counter potential Soviet aggression. Truman's administration was widely criticized both at home and abroad for not cashing in on the US atomic monopoly with more serious efforts at diplomacy with the Soviets. However, the political climate of the Cold War did little to enable such diplomacy. In fact, the foundation of how the United States would address their nuclear competitor was first introduced by George Kennan, a future State Department head policy maker, who introduced the concept of containment.[14] In his infamous 22 February, 1946 'long telegram' from Moscow to the US State Department, Kennan cautioned that the Russians "have learned to seek security only in patient but deadly struggle for total destruction of rival power, never in compacts and compromise with it."[15] He concludes "'the main deterrent to Soviet attack on the United States, or to attack on areas of the world which are vital to our security, will be the military power of this country."[16]

Kennan's views were embraced by other Washington officials, including Truman advisor Clark Clifford. Clifford "used it as a springboard from which to proclaim a global American security mission, embracing 'all democratic countries which are in any way menaced or endangered by the U.S.S.R.'"[17] The National Security Council 68 (NSC-68) document was the result of how the Truman Administration applied Kennan's ideas and implemented the strategy of containment. NSC-68 recognized the need for a "rapid and sustained build-up of the political, economic and military strength of the free world."[18] With respect to military response to Soviet aggression, the focus was still a conventional military approach to deterring the Soviets from war, but it did not rule out use of nuclear weapons. Hence, NSC-68 introduced the concept of

'appropriate response', cautioning America's free society to avoid lapsing into excesses. Avoiding either that of too much tolerance and patience waiting for the Soviet Union to change or that of the "indulgence of conspiracy and the excess of resorting to suppression when more moderate measures are not only more appropriate but more effective."[19] Despite advocating for preparing for an 'appropriate response' to Soviet aggression, the administration was fully aware that eventually the Soviets would reach full competitor status with the United States in the nuclear arena.

In order to prepare for this eventuality, NSC-68 dictated that "a further increase in the number and power of our atomic weapons is necessary in order to assure the effectiveness of any US retaliatory blow, but would not of itself [prevent Russia from obtaining a first strike capability]."[20] It went on to advocate for increased military strength including air defense and civilian defense programs to allow the United States to survive an "initial surprise attack."[21] That desire to stay ahead of the Soviets in both conventional and nuclear terms, drove the United States to aggressively build up their military.

The Eisenhower Years

President Eisenhower took office in the midst of this massive military build-up, not only in conventional forces, but more importantly its nuclear arsenal. Eisenhower came into office with the belief that the focus of his administration should be on domestic issues while avoiding the pursuit of economically-draining foreign engagements and wars including a 'cold war'. Eisenhower's New Look strategy aimed to halt the ambitious military spending inherited by the administration. The Air Force, and its strategic weapons, was the only Service spared severe spending cuts because it provided 'more bang for the buck'.[22] "The United States would depend

in the first instance on indigenous forces to resist Communist attacks, but back them up with tactical air and sea power, possibly including nuclear weapons, and finally, if necessary, the ultimate deterrent of 'massive retaliatory power' to be applied 'by means and at places of our own choosing.'"[23]

Massive Retaliation, and its dependence on nuclear weapons, was born from a fear the United States would miss the signs of a Soviet first strike and be unable to respond. This first-strike dilemma was a concern as the arms race ensued. What followed logically from an examination of a first-strike scenario is the determination that a nation must possess a second-strike capability. A second-strike capability was necessary not only to defend against an adversary's first-strike, but also to ensure the credibility of one's deterrence strategy. The adversary must know that if they attacked, the United States would survive and be able to launch a devastating second-strike. This massive retaliation policy contributed to the considerable build-up of the nuclear inventory to provide for the capability to respond to a Soviet first strike.

The Kennedy/Johnson Years

By the 1960s, "the overbearing presence of nuclear weapons reinforced the view that total war could now only be threatened but never fought."[24] As the Kennedy administration took office, the Cold War policy of containment was entrenched as the overriding US foreign policy with regards to the Soviet Union. This would be no more evident than during the Cuban Missile crisis, where the United States and the Soviet Union had come dangerously close to exchanging nuclear weapons over the Soviet expansion into Cuba and the US's intent to contain it. Born of the crisis were two significant events: the establishment of a hotline between the Kremlin and the White House and the signing of the Limited Nuclear Test Ban Treaty. Both signaled a warming

in relations between the United States and the Soviet Union. In language very different from his inaugural address, President Kennedy told Americans in June 1963, 'For, in the final analysis, our most basic common link is that we all inhabit this small planet. We all breathe the same air. We all cherish our children's future. And we are all mortal.'"[25] Kennedy used his speech and the crisis as an opportunity to extend a hand to Chairman Khrushchev to start the effort toward arms limitations and a serious effort at detente.

During this time, Defense Secretary McNamara heavily influenced the further debate on nuclear deterrence. Initially, reminiscent of the limited nuclear war beliefs held during the Truman administration, McNamara believed that the United States had the inherent capability to prosecute a nuclear war in a similar fashion as a conventional war. "That is to say, principal military objectives, in the event of a nuclear war stemming from a major attack on the Alliance, should be the destruction of the enemy's military forces, not his civilian population."[26] The intent of the counter-force policy was to communicate a desire to avoid populations and provide for a bargaining tactic in a limited war. Unfortunately, this attempt at a flexible response was interpreted as a first-strike policy. Additionally, the forces required to be in place to support a counter-force flexible response policy were very large in number and required a retalitory second-strike capability. This ironically supported the interpretation that the United States was preparing for a first-strike. "For a second-strike-capability/retaliatory strategy to provide maximum stability, two conditions must be met. First, a nation adopting a retaliatory strategy must be confident in the second-strike capability of its forces. Doubts about its ability to absorb an attack and retaliate effectively may result in a temptation to fire all or part of its force first, particularly the most vulnerable elements. In addition, the potential adversary must see the second-strike capability of retaliatory force as credible."[27]

Ultimately, strategists concluded, as identified as early as 1955 in the Killian Report to the National Security Council, that the "two super-powers would reach a position where 'attack by either side would result in mutual destruction'."[28] And so it began, a foreign policy journey down a road paved by assured destruction and "an uneasy peace resulted as neither side could find a profitable way to use the weapons they had spent billions to produce."[29] This strategy would later be referred to by its acronym, MAD, in recognition of what Albert Wohlstetter termed the 'delicate balance of terror' in questioning the validity of concluding that mutual destruction can be the only outcome of engaging in nuclear warfare.[30]

Prelude to the End of the Cold War

During the 1970s, the world observed a period of relative stability between the two nuclear superpowers based on the concept of MAD. However, when President Reagan took office in 1981, the United States found itself in a conflict over opposing viewpoints on nuclear weapons. On one side was the concern over a perceived increase in Soviet aggressiveness, demonstrated in its invasion of Afghanistan followed by indirect involvement in Angola and Ethiopia. "The ascendant view in Washington was that after years of accumulating military strength the Soviet behemoth was at last on the move."[31] With a new administration now in place, the conditions were set to enable another military build-up with a focus on improving the nation's nuclear arsenal and laying the foundations for a 'strategic defense initiative' to counter the Soviets resurgent militarily.[32]

On the other side was the growing strength and influence of anti-nuclear movements including the Committee for a SANE Nuclear Policy and the Nuclear Weapons Freeze Campaign.[33] The political heat applied by these and multiple international organizations forced

the Reagan administration to actively negotiate for further arms reductions while at the same time focusing on building a strong defense. In the end, this paradox was made irrelevant based on the changing political climate in Russia following Mikhail Gorbachev's ascent to power. Toward the end of the decade, Reagan finally accepted Gorbachev's message of Glasnost and he took measures to establish a closer working relationship with Gorbachev. "This resulted in a flurry of four summits and one major arms control treaty."[34] The Intermediate-range Nuclear Forces (INF) Treaty of 1987 stipulated that both sides would withdraw all of their intermediate- and short-range ballistic missile capabilities from Europe. It was also the first time an arms treaty called for the actual elimination of nuclear weapons and stipulated verification measures.[35] With the softening stance of the Soviet Union and its eventual fall, nuclear deterrence took a back seat to the emerging national security strategy of global engagement and enlargement.

Post-Cold War

In 1989, the Berlin wall was torn down and the United States saw the beginning of the end of the Cold War. By 1991, Americans were celebrating victory in the Cold War as they watched the Soviet Union dissolve. Much of the credit for this victory and recognition for the avoidance of a nuclear holocaust went to the policy of deterrence. The new national security strategy of the Bush administration, referred to by President Bush as a strategy for a "new world order," set the stage for the United States to essentially ignore the role of nuclear deterrence in foreign policy for the next decade. Without a serious nuclear threat from another superpower, the United States was free to neglect the role of deterrence strategy.[36]

Certainly, there were numerous debates on the role of the actual weapons with a general sense that the United States should lead the world in reducing the overall number of nuclear

weapons in the world. "In 1990, prior to signing the first Strategic Arms Reduction Treaty (START I), the United States had over 10,000 warheads on its strategic nuclear forces. After implementing START I, at the end of 2001, the United States retained around 7,000 warheads on its ICBMs, SLBMs, and heavy bombers."[37] This was serious progress in the reduction of arms but still left the strategy question unanswered.

Finally, in an effort to clearly align military strategy with national security strategy, the Clinton administration called for a bottom-up review of the nation's military forces. As part of this review, the Nuclear Posture Review (NPR) examined US nuclear forces and nuclear strategy. This was the "first such review of U.S. nuclear policy in 15 years, and the first study ever to include policy, doctrine, force structure, command and control, operations, supporting infrastructure, safety and security and arms control in a single review.[38] The Clinton NPR introduced the notion that nuclear arms reduction was related to the nation's nuclear posture.[39] By showing global leadership through the act of continuing to reduce nuclear weapons through specified treaties, the United States demonstrated its partnership in non-proliferation. However, the Clinton administration also recognized the need to remain cautious in its evaluation of the future threat posed by Russia and the possibility of a reversal of Russian political progress.[40] As the 1994 NPR briefing to Congress concluded, the "US Nuclear Posture must help shape [the] future [and a] difficult but vital challenge for US Posture is to both lead and hedge."[41]

At best, the 1994 NPR took steps towards recognizing that in the new post-Cold War strategic environment, one of the key emergent threats to US national security was the proliferation of nuclear weapons. Although the Former Soviet Union is singled out in the 1994 NPR as the potential source for "unauthorized/accidental use or diversion of weapons or materials," it also recognized threats posed by nuclear proliferation. It highlighted the need for

the United States to take on a leadership role in threat reduction and "support[ed] the Cooperative Threat Reduction (Nunn-Lugar) program."[42] However, with respect to nuclear strategy, the Clinton Nuclear Posture Review "ducked the most important questions about the role of nuclear weapons in the new world order because it lacked a long-term vision of its nuclear policy objectives."[43] Despite hinting at future threats beyond the Former Soviet Union, the 1994 NPR "retained the central assumption that the primary U.S. strategic concern was managing the hostile relationship between the two great nuclear powers."[44] Hence, Russia remained the overall focus of the 1994 NPR. No doubt rightfully so considering the recency of the Soviet break-up, however, the 1994 NPR hesitated to look beyond short-term requirements. It failed to address nuclear policy beyond that which was required to hedge against a potential resurgence of a Russian threat, thus resulting in a nuclear policy very similar to Cold War policy. Despite significant changes in the strategic environment, it would be another eight years before a new nuclear posture review was undertaken.

New Century – New Triad

After ten years had passed since the end of the Cold War, there was more confidence in the permanency of the political changes in Russia as well as further recognition that threats to US national security no longer centered on the Russian nuclear threat. Upon taking office, the Bush administration recognized the need to undertake a new Nuclear Posture Review. According to Secretary of Defense Rumsfeld in the forward to the 2001 NPR as presented to Congress, "the U.S. will no longer plan, size or sustain its forces as though Russia presented merely a smaller version of the threat posed by the former Soviet Union."[45] The 2001 NPR was a complete shift from looking at the world in a threat based manner and instead used a capabilities based

approach to answer the planned and unplanned threats to US national security, offering the president an array of strategic response capabilities beyond nuclear weapons.[46] The 2001 NPR was produced following the guidelines President Bush laid out as the review started. "'[W]e must seek security based on more than the grim premise that we can destroy those who seek to destroy us. This is an important opportunity for the world to rethink the unthinkable, and to find new ways to keep the peace. . . . Deterrence can no longer be based solely on the threat of nuclear retaliation."[47]

Today's Deterrence: The 'New Triad'

Following the completion of the 2001 Nuclear Posture Review, Admiral Ellis, Commander, US Strategic Command (USSTRATCOM), testified before the Senate Armed Services Committee regarding the new NPR. Admiral Ellis stated, "For a number of reasons, including a rapidly changing international environment and complex new national security challenges, the time is right to again assess our strategic direction. This Nuclear Posture Review provides that assessment and, indeed, moves beyond assessment to provide the initial details of a new direction, proposing a comprehensive approach…."[48] This new comprehensive approach introduced a new deterrent model based on the concept of global deterrence presented in the form of a 'New Triad'. This New Triad provided for a relatively small role for the old nuclear triad (ICBMs, Submarine launched ballistic missiles and bombers) within a larger triad of strike, defense, and responsive infrastructure capabilities. This was an attempt to balance the capabilities of the military and related infrastructure and provide the president with a range of options to respond to global threats. (see figure 1) Additionally, the new NPR suggested that a smaller nuclear arsenal was desired but not unless it was shaped to "counter new or emerging

threats, and able to greatly reduce or eliminate civilian casualties. . . [which can] be accomplished through the development of weapons with more tailored and precise effects."[49] In Secretary Rumsfeld's introduction of the New Triad, he stated "the addition of non-nuclear strike forces – including conventional strike and information operations – means that the U.S. will be less dependent than it has been in the past on nuclear forces to provide its offensive deterrent capability."[50]

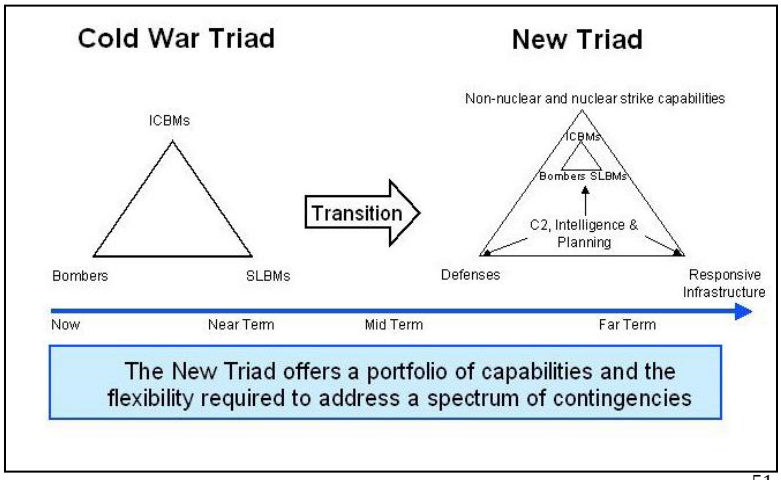

Figure 1, obtained from NPR briefing to Congress, 2002.[51]

Despite this statement by the Secretary of Defense, the critics began to interpret this New Triad as a justification for the increased role of nuclear weapons. "Some have claimed that this NPR, unlike the one of 1994, did not reduce the role of nuclear weapons or even expanded their role."[52] In the International Physicians for the Prevention of Nuclear War letter to President Bush in response to the 2001 NPR, they stated "that the US plans to develop small, tactical nuclear weapons for use in a variety of battlefield contingencies."[53] This organization was joined by others in their concern over what appeared to be an increase in the willingness of the government to consider nuclear weapons for use against non-nuclear states. Johathan Granoff, President of the Global Security Institute, asserted that "with the NPR, the US emphasizes

nuclear weapons not as devices of deterrence, but as weapons of war, and thus erodes the norms against nuclear use."[54] These interpretations, coupled with other NSC documents, furthered the concern that the Bush Administration was placing a greater emphasis on nuclear weapon use. "NSPD-17 [National Security Presidential Directive 17], for example, reiterated the American commitment to respond with 'overwhelming force, including potentially nuclear weapons', to a WMD attack by either a terrorist or a rogue state."[55]

Indeed, all of this criticism revealed what appeared to be multiple contradictions within the NPR. Keith Payne, president of the National Institute for Public Policy stated that "it has been claimed that the NPR rejects deterrence, blurs the distinction between conventional and nuclear forces, places greater emphasis on nuclear weapons, calls for new nuclear weapons and testing, lowers the nuclear threshold, spurs nuclear proliferation, and continues Cold War modes of force sizing."[56] Payne's response to this criticism was that "these are all errors of fact or interpretation, based on entrenched strategic maxims pertinent to a strategic environment that no longer exists."[57] What Payne is essentially arguing is that these interpretations are taken out of context; the critics are viewing the NPR through the lens of the Cold War and not in the context of the "new strategic environment, including in particular the emergence of hostile states with weapons of mass destruction…."[58]

But whose responsibility is it to clarify this message? The bottom line is that the Bush Administration's viewpoint on the use of nuclear weapons for deterrence or retaliation was not clearly articulated with the 2001 NPR. Indeed, the lines were blurred with respect to using nuclear weapons for deterring nuclear aggression exclusively vice using nuclear weapons as a deterrent against an adversary's use of chemical, biological or even conventional aggression. By lumping nuclear weapons in with other offensive weapons and defensive systems, it sends a

message that nuclear weapons are just another tool among others for deterring an adversary and fails to recognize the unique nature of nuclear deterrence. "[T]he NPR underscores a dangerous trend in US strategic policy in which the distinctions between nuclear and non-nuclear 'missions' -- and even nuclear and non-nuclear weapons -- become blurred."[59] This is a valid concern identified by many critics and must be addressed in the upcoming Nuclear Posture Review by the Obama Administration.

Tomorrow's Deterrence: Toward a New 'New Triad'

The 2001 NPR provides a solid foundation for the 2009 NPR to build upon. The New Triad introduced by the 2001 NPR has actually proven to be a very useful tool in addressing the overall approach to global deterrence, particularly in terms of enabling a healthy discussion on where the Department of Defense should focus its resources.[60] The most recent version of the New Triad illustration evolved to provide more detail consistent with the vision of 2001 Nuclear Posture Review which was further articulated by General Cartwright, Commander, USSTRATCOM in his testimony to the Senate Armed Services Committee, Strategic Forces Subcommittee in 2006. (see figure 2)

This version of the New Triad has made strides toward clarifying the initial intentions of the 2001 NPR. It helps by depicting a more balanced approach to deterrence as illustrated with three triads within the global deterrence triad. The illustration shows how kinetic-nuclear capabilities play a smaller role in the overall strike capabilities of DoD and even identifies how non-kinetic options should be considered as options in the overall approach to deterrence. Additionally, the current representation clarifies how defense and infrastructure can offer a balance with strike capabilities to provide a DoD-wide approach to global deterrence. This has

offered a truly revolutionary approach to deterrence strategy beyond that of nuclear deterrence. Unfortunately, it still lends itself to misinterpretation regarding nuclear weapons and their role in global deterrence. It still blurs the lines between conventional deterrence and nuclear deterrence. By combining conventional and nuclear deterrence as 'global deterrence', the assumption remains that the same tenets apply in both realms. However, nuclear deterrence and the old nuclear triad are unique and must be treated as such.

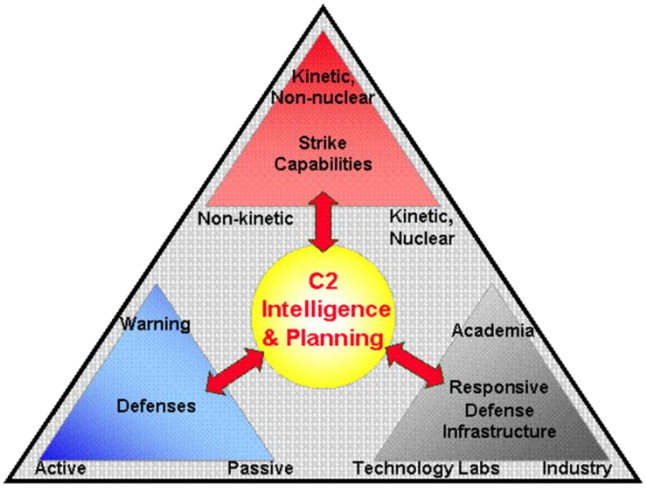

Figure 2, obtained from USSTRATCOM Command Brief prepared for Joint Forces College, JPME, 23 January 2008.[61]

Despite the attempt by the Bush administration to clarify the tenets of the New Triad, it continued to receive criticism throughout its tenure. Hans Kristensen, Director, Nuclear Information Project, criticized DoD strategic war planners for combining nuclear and non-nuclear strike options without clearly delineating the roles of nuclear and conventional forces. He identifies a number of issues that are not adequately addressed by the planners, including how combining nuclear and conventional forces might affect potential future wars with nuclear states and how the different capabilities apply in different situations.[62] As recently as January 2009, Senator Dianne Feinstein criticized President Bush for "chang[ing] the 'strategic triad' -- which

put nuclear weapons in a special category by themselves -- by lumping them with conventional weapons in the same package of battlefield capabilities. This blurred the distinction between the two, making nuclear weapons easier to use."[63]

These concerns highlight the basis for identifying the inherent differences between nuclear and conventional deterrence. By lumping all the capabilities together, "the result may be deterrence overkill, where opaque differences between capabilities and the blurry distinctions between crisis and war situations make it increasingly difficult to see which part of the posture has what purpose."[64] The concern follows that in not differentiating between nuclear and conventional deterrence, they will be seen as interchangeable. This concern focuses on two ends of a spectrum. Either decision makers may rely too heavily on conventional forces in the hopes of deterring a peer nuclear rival or worse, they may rely on nuclear weapons to deter a conventional attack. The issue with using nuclear weapons to deter conventional aggression, as well as relatively small chemical and biological aggression, is that when one returns to the basic requirements for deterrence to be effective, one key factor is likely missing – the perception by the enemy that the deterring country has the political will to use the deterrent. In the current political environment, with such a world-wide stigma placed on nuclear weapons, it is reasonable for a US adversary to conclude that the United States would hesitate to use nuclear weapons in response to any attack short of a nuclear attack.

In a report by the Council on Foreign Relations, Senior Fellow Michael A. Levi states, "Strategists are right to assert that the world must hold states accountable for how they handle their stockpiles, but they are largely wrong to translate that into policy by using variations on Cold War deterrence."[65] The global deterrence supported by the New Triad is not the same as nuclear deterrence and the basic tenets of nuclear deterrence strategy do not necessarily apply to

a global deterrence strategy. In 1958 Bernard Brodie recognized this inherent difference when he wrote, "there is … presumptive evidence that the deterrence strategy diverges significantly from a strategy which emphasizes ability to win if war comes."[66] As the United States shifts its deterrence strategy from nuclear deterrence to global deterrence, it must encourage a re-examination of deterrence theory.

General Chilton, Commander, USSTRATCOM, recently co-wrote an article for Strategic Studies Quarterly entitled "Waging Deterrence in the Twenty-First Century". He discussed how USSTRATCOM had re-examined deterrence theory and the history of deterrence strategy and practice to determine the relevancy of deterrence in the new century. "One insight gained from [USSTRATCOM's] research and analysis is that a number of the 'general' deterrence lessons we thought we learned in the Cold War may, in retrospect, have been specific to the kind of deterrence relationship we had with the Soviet Union."[67] Freedman may well be right when he concludes that "there can be no purely nuclear strategies," but he is quick to follow that "there remains a continuing need for strategies that take nuclear weapons into account."[68] These strategies are unique and are based on a concept that does not allow for measured escalation. This was the basis of the nuclear deterrence strategy of MAD.

Nuclear weapons have changed the nature of war such that there can no longer be a strategy for winning the war, only for avoiding it when applied to nuclear warfare. It is separate and distinct from its conventional counterpart. "The argument is that modern [nuclear] deterrence is like traditional [conventional] deterrence in some respects but significantly different in others; it differs especially in that we look upon deterrence of total war today as something that must go permanently unchallenged."[69] It is imperative that the distinction be clarified as it applies to the current strategic environment. "Unfortunately, popular usage of the

word 'deterrence,' at this point, is anchored firmly to its Cold War mooring. [The] dilemma. . . is whether to banish the term deterrence for being hopelessly tied to its Cold War usage, or to work toward a healthier understanding of the term. The latter course probably is preferable, if only because the former is impractical."[70]

In promulgating a better understanding of deterrence or 'global deterrence' it is important that strategists and policy makers not lose sight of the importance and distinctiveness of the old nuclear triad. The roots of the recently discovered atrophy within the nuclear enterprise community can be traced back to the end of the Cold War when the lines began to blur with regard to deterrence. The national focus was diverted from nuclear deterrence toward engagement and eventually a 'global deterrence' approach to national security. The continued neglect over the past two decades was only reinforced by allowing the old triad to be looked upon as a 'given' and relegated to the role of equal among other deterrent capabilities. President Truman was in an ideal position to recognize the uniqueness of nuclear weapons. In 1948 he told a group of advisors that "it is a terrible thing to order the use of something that…is so terribly destructive, destructive beyond anything we have ever had…. So we have got to treat this differently from rifles and cannon and ordinary things like that."[71] It is imperative that the unique and enduring deterrence capabilities of nuclear weapons not be neglected or treated the same as conventional deterrence. "It is a problem that appears not to be understood whatsoever by those who confidently assert that the deterrence of future regional aggressors involves simply the extension of the U.S. deterrence policies that 'worked' against the Soviet leadership during the Cold War: U.S. deterrence goals vis-à-vis the Soviet Union were different than are U.S. post-Cold War deterrence goals vis-à-vis regional aggressors."[72] Nuclear weapons and the threat of

their use bring with them significant geopolitical considerations that do not apply in the conventional realm.

A New 'New Triad'

There does appear to be an underlying appreciation for a difference between nuclear and global deterrence as previously detected in General Chilton's article but there is still no general effort to separate the two. Admiral Michael Mullen, Chairman, Joint Chiefs of Staff, also eluded to an underlying difference when he wrote in Joint Forces Quarterly that "the *bulk* [emphasis added] of our strategic deterrence still relies upon the effectiveness of our nuclear arsenal. US nuclear forces contribute *uniquely and fundamentally* [emphasis added] to deterrence through their ability to impose costs and deny benefits to an adversary in an exceedingly rapid and devastating manner."[73] Lastly, the Schlesinger Phase II report states that "nuclear weapons remain unique in their destructive power—and thus in their physical, military, and political effects."[74]. If this is true and it is accepted that the unique nature of nuclear weapons necessitates a fundamentally different treatment of their role in deterrence, then the New Triad should be altered to represent this more accurately. Nuclear weapons should be pulled out of the actual triad and displayed in a block on the bottom supporting the entire triad. (see figure 3)

Restructuring the New Triad would accomplish several things. First, it would recognize nuclear deterrence as the foundation of the US global deterrence strategy. Nuclear deterrence ensures the basic survival of the United States and is the enabler for all US global engagement. It is truly the foundation of the nation's position as a super-power. Second, a revised triad will provide for the proper focus of attention and weight to the nuclear mission. To ensure the credibility of the nuclear enterprise, the appropriate focus and attention must be given to the

nuclear mission. The recent nuclear mishaps are clear evidence that the enterprise has been neglected. Identifying the nuclear mission as separate and unique in its role in global deterrence will help avoid future neglect of the mission by not allowing it to get obscured among the other elements of global deterrence. And third, restructuring the New Triad prevents giving the implication that nuclear weapons are just another arrow in the quiver. The message that the United States has placed increased emphasis on nuclear weapons use, whether intended or unintended, is politically volatile. Removing nuclear weapons from the New Triad will help clarify the intended message that the United States intends to reduce its reliance on nuclear weapons. This could be of particular use if the current administration agrees and complies with the calls domestically and internationally for the United States to declare a 'no first use' policy in the use of nuclear weapons.[75]

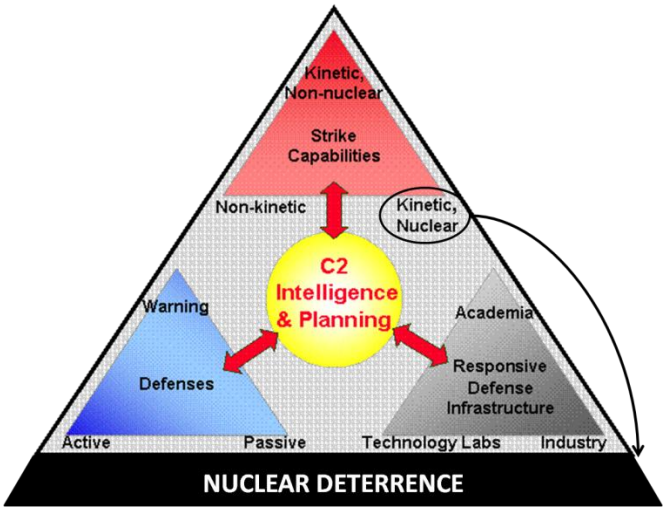

Figure 3, adapted from USSTRATCOM Command Brief prepared for Joint Forces College, JPME, 23 January 2008.[76]

Conclusion

As Barrack Obama begins his tenure as President of the United States, he finds himself mired in many compelling political issues, not the least of which is the current economic crisis. This crisis coupled with multiple other domestic issues and the continued concern with terrorism, has the potential to direct the administration's attention away from nuclear deterrence. The administration must recognize, however, that nuclear deterrence is the foundation for the assured safety and security of the nation. The nation has started to see cracks forming in this foundation and, if neglected, could risk the future of the United States as a global super-power.

Historically, the United States has come to the conclusion that a strong nuclear deterrent force capable of completely devastating of our enemy is necessary to ensure deterrence of a nuclear attack on the United States. Unfortunately, it was only during the activity of the Cold War with the existence of a clear peer adversary, the Soviet Union, that serious discussion and study was given to the role of nuclear deterrence in national security. As much as many people would like to forget about the role of nuclear weapons, as long as nuclear weapons exist, nuclear deterrence will remain the foundation for the nation's security.

The upcoming Nuclear Posture Review will provide the Obama administration an opportunity to clarify the nation's nuclear deterrence strategy. One step in accomplishing this is to restructure the New Triad to effectively communicate to the world that the United States remains committed to providing stability through nuclear deterrence while at the same time limiting its overall reliance on nuclear weapons to that of deterrence.

[1] Garamone, "Gates Says Nuclear Mission."
[2] Schlesinger, "Phase II Report", iii.
[3] Ibid.
[4] Bodman, *National Security and Nuclear Weapons.*
[5] Brodie, *The Absolute Weapon,* 76.
[6] Powell, Robert, *Nuclear Deterrence Theory*, 3.
[7] Freedman, *The Evolution of Nuclear Strategy,* 97.
[8] DOD, *Strategic Deterrence JOC and Deterrence Operations JOC*.
[9] DOD, *Strategic Deterrence JOC*, 4.
[10] Gaddis, *The Cold War*, 54.
[11] NSC-30, *United States Policy on Atomic Weapons.*
[12] RAND, "The Orgins of RAND."
[13] Freedman, *The Evolution of Nuclear Strategy,* 166.
[14] Kissinger, "Reflections on Containment."
[15] Kennan, "The Long Telegram", 6.
[16] Ibid.
[17] Ibid.
[18] NSC 68, *United States Objectives and Programs.*
[19] Ibid.
[20] Ibid.
[21] Ibid.
[22] McDougall, *…The Heavens and the Earth* , 114.
[23] Ibid.
[24] Freedman, *Deterrence,* 21.
[25] JFK Library, "JFK in History."
[26] McNamara as cited in Freedman, *Evolution of Nuclear Strategy*, 223.
[27] Drew, *Making Twenty-First-Century Strategy*, 179.
[28] Freedman, *The Evolution of Nuclear Strategy,* 150.
[29] Dolman, *Astropolitik*, 95.
[30] Freedman, *The Evolution of Nuclear Strategy,* 129.
[31] Freedman, 378.
[32] DOS, "The Denouement of the Cold War."
[33] Voldman, "A rebirth of the anti-nuclear."
[34] Freedman, *The Evolution of Nuclear Strategy,* 380.
[35] DOS, "The Denouement of the Cold War."
[36] Schlesinger, "Phase II Report," iv.
[37] Wolf, "CRS Report for Congress,", 3.
[38] DOD, *DOD Review Recommends Reduction.*
[39] DOD, "Nuclear Posture Review," 35.
[40] DOD, *DOD Review Recommends Reduction.*
[41] DOD, "Nuclear Posture Review," 35.
[42] DOD, *DOD Review Recommends Reduction.*
[43] Cimbala, *Clinton and post-Cold War, xii.*
[44] Payne, "The NPR: Setting the Record Straight," 135.
[45] Rumsfeld, "Nuclear Posture Review Report: Forward."
[46] Ibid.
[47] Payne, "The Nuclear Posture Review," 135.
[48] Ellis, "Statement of Admiral James O. Ellis," 3.
[49] Trachtenberg, "Understanding American Nuclear Weapons," ii-iii.
[50] Rumsfeld, "Nuclear Posture Review Report: Forward."
[51] DOD, "Findings of the Nuclear Posture Review," 9.
[52] Pilat, "The end of the NPT regime?" 477.
[53] IPPNW, "Letter from the Co-Presidents."
[54] Granof, "Pentagon Report Reveals Dangerous."

[55] Mcdonough, *Nuclear Superiority*, 44.
[56] Payne, "The NPR: Setting the Record Straight," 136.
[57] Ibid.
[58] Payne, 135.
[59] IPPNW, "Letter from the Co-Presidents."
[60] Cartwright, "Statement by." and Chilton, "Statement by."
[61] USSTRATCOM, "Command Brief."
[62] Kristensen, "U.S. Strategic War Planning," 383.
[63] Feinstein, "Let's Commit to a."
[64] Kristensen, "U.S. Strategic War Planning," 383.
[65] CFR, "CFR Report Calls for."
[66] Brodie, *The Anatomy of Deterrence*, iii.
[67] Chilton, "Waging Deterrence," 32.
[68] Freedman, *The Evolution of Nuclear*, 464.
[69] Brodie, *The Anatomy of Deterrence*, iv.
[70] Payne, "Fallicies of the Cold War," 423.
[71] Gaddis, *The Cold War*, 53.
[72] Payne, "Fallicies of the Cold War," 421.
[73] Mullen, "It's Time for a New," 1.
[74] Schlesinger, "Phase II Report", Forward.
[75] Pincus, "Pentagon Revises Nuclear Strike Plan."
[76] USSTRATCOM, "Command Brief."

Bibliography

Books

Bose, Meena and Rosanna Perotti, ed. *From Cold War to New World Order*. Westport, CT: Greenwood Publishing, 2002.

Brodie, Bernard, ed. *The Absolute Weapon: Atomic Power and World Order*. New York: Harcourt Brace, 1946.

Cimbala, Stephen J., ed. *Clinton and Post-Cold War Defense.* Westport, CT: Praeger, 1996.

Dolman, Everett C. *Astropolitik: Classical Geopolitics in the Space Age*. Southgate, London: Frank Cass Publishers, 2002.

Drew, Dennis M. and Donald M. Snow. *Making Twenty-First-Century Strategy*. Maxwell AFB, AL: Air University Press, 2006.

Etzod, Thomas H., and John L. Gaddis, eds. *Containment, Documents on American Policy and Strategy, 1945-1950.* New York: Columbia University Press, 1978.

Frank, Harvey P. *The Future's Back: Nuclear Rivalry, Deterrence Theory, and Crisis Stability after the Cold War.* Buffalo, NY: McGill-Queen's University Press, 1997.

Freedman, Lawrence. *Deterrence.* Malden, MA: Polity Press, 2004.

Freedman, Lawrence. *The Evolution of Nuclear Strategy.* 2nd ed. New York: St. Martin's Press, 1989.

Gaddis, John Lewis. *The Cold War: A New History*. New York, NY: Penguin Press, 2005.

George, Alexander, and Richard Smoke. *Deterrence in American Foreign Policy: Theory and Practice.* New York: Columbia University Press, 1974.

Gray, Colin S. *The Second Nuclear Age.* Boulder, CO: Lynne Rienner Publishers, Inc., 2008.

Hentz, James J. *The Obligation of Empire: United States' Grand Strategy for a New Century.* Lexington, KY: The University Press of Kentucky, 2004.

Holdren, John, et al. *The Future of US Nuclear Weapons Policy*. Washington, DC: National Academy Press, 1997.

McDonough, David S. *Nuclear Superiority: The "New Triad" and the Evolution of American Nuclear Strategy*. Abingdon, New York: Routledge, 2006.

McDougall, Walter A. *...The Heavens and the Earth: A Political History of the Space Age.* Baltimore, MD: The Johns Hopkins University Press, 1985.

Payne, Keith B. *The Great American Gamble: Deterrence Theory and Practice from the Cold War to the Twenty-first Century*. Fairfax, VA: National Institute Press, 2008.

Powell, Robert. *Nuclear Deterrence Theory: The Search for Credibility.* Cambridge; New York: Cambridge University Press, 1990.

Sharp, Walter Gary, Sr. *Democracy and Deterrence: Foundations for an Enduring World Peace.* Maxwell AFB, AL: Air University Press, 2008.

Periodicals

Chilton, General Kevin and Greg Weaver. "Waging Deterrence in the Twenty-First Century." *Strategic Studies Quarterly* (Spring 2009): 31-42.

Ifft, Edward. "Deterrence, Blackmail, Friendly Persuasion." *Defense & Security Analysis* 23, Iss. 3 (September 2007): 237-256.

Jervis, Robert. "Review Article: Deterrence Theory Revisited." *World Politics* 31, No. 2 (January 1979): 289-324

Garamone, Jim. "Gates Says Nuclear Mission Shortcomings Caused Air Force Dismissals." American Forces Press Service, 9 June 2008. http://www.defenselink.mil/news/newsarticle.aspx?id=50152 (accessed on 27 March 2009).

Kaplan, Morton A. "The Calculus of Nuclear Deterrence." *World Politics* 11, No. 1 (October 1958): 20-43.

Khryapin, A. L., and V.A. Afanasyev. "Conceptual Principles of Strategic Deterrence." *Military Thought* 14, Iss. 1 (2005): 30-35.

Kissinger, Henry A. "Reflections on Containment." *Foreign Affairs* (May/June 1994): 113-130.

Kristensen, Hans M. "U.S. Strategic War Planning After 9/11." Nonproliferation Review, Vol 14, No. 2. (July 2007): 373-390.

Payne, Keith B. "The Fallicies of the Cold War." *Comparative Strategy* 22 (2003): 411-428.

Payne, Keith B. "The Nuclear Posture Review and Deterrence for a New Age." *Comparative Strategy* 23, Iss. 4 (Oct-Dec 2004): 411.

Payne, Keith B. "The Nuclear Posture Review: Setting the Record Straight." *The Washington Quarterly*, 28:3. *(*Summer 2005): 135-151.

Pilat, Joseph F. "The end of the NPT regime?" *International Affairs* 83:3 (2007): 469-482.

Raser, John R. "Deterrence Research: Past Progress and Future Needs." *Journal of Peace Research* 3, No. 4 (1966): 297-327.

Walker, J. Samuel. "Real-World Nuclear Deterrence: The Making of International Strategy." *The Journal of American History 95, Iss. 2 (September 2008): 609.*

Williams, Michael. "Revisiting Established Doctrine in an Age of Risk." *Royal United Services Institute (RUSI) Journal* 150, Iss. 5 (October 2005): 48-52.

Reports, Memorandums and Briefings

Brodie, Bernard. *The Anatomy of Deterrence*, RAND Project Air Force. Santa Monica, CA: RAND, 1958.

Buchan, Glenn C. et al. *Future Roles of U.S. Nuclear Forces: Implications for U.S. Strategy,* RAND Project Air Force. Santa Monica, CA: RAND, 2003.

NSC 30, United States Policy on Atomic Warfare, September 10, 1948, in FRUS, Vol. I, Part 2, General; The United Nations (Washington, D.C.: Government Printing Office, 1976) 624-628.

Report of the Secretary of Defense Task Force on DoD Nuclear Weapons Management Phase II: Review of the DoD Nuclear Mission. Arlington, VA: Secretary of Defense Task Force on DoD Nuclear Weapons Management, December 2008.

Trachtenberg, David and Peter Pry. *Understanding American Nuclear Weapons Policy and Strategy*. Washington, DC: United States Nuclear Strategy Forum, 2005.

Wilkening, Dean, and Kenneth Waltman. *Nuclear Deterrence in a Regional Context*, RAND Arroyo Center, Project Air Force. Santa Monica, CA: RAND, 1995.

US Department of Defense. *DOD Review Recommends Reduction in Nuclear Force.* Office of Assistant Secretary of Defense (Public Affairs). Washington D.C.: 22 December 1994.

United States Strategic Command. "USSTRATCOM Command Brief: Joint Forces Staff College PME II." USSTRATCOM: 23 February 2008.

Electronic Publications

Bodman, Secretary Samuel W. and Secretary Robert M. Gates. "National Security and Nuclear Weapons in the 21st Century." September 2008. http://www.defenselink.mil/news/ nuclearweaponspolicy.pdf.

Voldman, Aaron, Jessica Wilbanks, Kate Hudson, and Lawrence S. Wittner. "A rebirth of the anti-nuclear weapons movement?" Bulletin of the Atomic Scientists: 18 June 2007. http://www.thebulletin.org/web-edition/roundtables/a-rebirth-the-anti-nuclear-weapons-movement.

Cartwright, General James E. "Statement by General James E. Cartwright Commander United States Strategic Command Before the Strategic Forces Subcommittee Senate Armed Services Committee on Global Strike Plans and Programs," US Senate Armed Services Committee, 29 March 2006. http://armed-services.senate.gov/statement/2006/March/Cartwright%20SF%2003-29-06.pdf.

Chilton, General Kevin P. "Statement of General Kevin P. Chilton Commander United States Strategic Command Before the Strategic Forces Subcommittee Senate Armed Services Committee on United States Strategic Command," US Senate Armed Services Committee, 12 March 2008. http//armed-services.senate.gov/statement/2008/Chilton%2003-12-08.pdf.

Council on Foreign Relations. "News Release: CFR Report Calls for New Nuclear Deterrence Strategy." Council on Foreign Relations, 22 September 2008. http://www.cfr.org/publication/17296/cfr_report_calls_for _new_nuclear_deterrence _strategy.html.

Ellis, Admiral James O. "Statement of Admiral James O. Ellis, USN Commander in Chief United States Strategic Command Before the Senate Armed Services Committee on The Nuclear Posture Review, " US Senate Armed Services Committee, 14 February 2002. http://armed-services.senate.gov/statement/2002/Ellis.pdf.

Feinstein, Senator Dianne. "Let's Commit to a Nuclear-Free World," *Wall Street Journal*, 3 January 2009. http://online.wsj.com/article/SB123094493785650643.html.

Granof, Jonathan. "Pentagon Report Reveals Dangerous Shift in US Nuclear Doctrine," Global Security Institute, 12 March 2002. http://wwwgsinstitute.org/archives/000086.Shtml #000086.

International Physicians for the Prevention of Nuclear War. "Letter from the Co-Presidents of International Physicians for the Prevention of Nuclear War (IPPNW) to President Bush regarding the US Nuclear Posture Review," Nuclear Age Peace Foundation, 13 March 2002. http://www.wagingpeace.org/articles/2002/03/13_Ippnw-letter.htm.

John F. Kennedy Library. "JFK in History: Cuban Missile Crisis." John F. Kennedy Presidential Library & Museum. http://www.jfklibrary.org/Historical+Resources/JFK+in+History/Cuban+Missile+Crisis.htm

Kennan, George. "Telegram, George Kennan to George Marshall ["Long Telegram]." Department of State, 22 February 1946. http://www.trumanlibrary.org/whistlestop/study_collections/coldwar/documents/index.php?documentdate=1946-02-22&documentid=6-6&studycollectionid=&pagenumber=1.

Mullen, Admiral Michael G. "It's Time for a New Deterrence Model." *Joint Forces Quarterly* Issue 51 (4th quarter 2008). http://www.ndu.edu/inss/Press/jfq_pages/51.htm.

National Security Council - 68, *United States Objectives and Programs for National Security*, National Security Council, 14 April 1950. http://www.mtholyoke.edu/acad/intrel/nsc-68/nsc68-1.htm

Pincus, Walter. "Pentagon Revises Nuclear Strike Plan," *Washington Post*, 11 September 2005. http://washingtonpost.com/wp-dyn/content/article/2005/09/10/ar2005091001053_pf.html.

RAND Organization. "The Orgins of RAND." http://www.rand.org/about/history/.

Rumsfeld, Donald H. "Nuclear Posture Review Report: Forward", US Department of Defense, Office of the Assistant Secretary of Defense (Public Affairs), 9 January 2002. http://www.defenselink.mil/news/Jan2002/d20020109npr.pdf.

US Department of Defense. "Findings of the Nuclear Posture Review," US Department of Defense, Office of the Assistant Secretary of Defense (Public Affairs), 2 January 2002. http://www.defenselink.mil/dodcmsshare/briefingslide/120/020109-D-6570C-001.pdf.

US Department of Defense. "Nuclear Posture Review," Briefing Slides, 22 September 1994. http://www.nukestrat.com/us/reviews/dodnprslides092294.pdf.

US Department of Defense. *Strategic Deterrence Joint Operating Concept*. Version 1.0 February 2004. www.dtic.mil/futurejointwarfare/concepts/sd_joc_v1.doc.

US Department of Defense. *Deterrence Operations Joint Operating Concept.* Version 2.0 December 2006. www.dtic.mil/futurejointwarfare/concepts/approved_ccjov3.pdf.

US Department of State. "The Denouement of the Cold War." Bureau of Public Affairs: Office of the Historian > Timeline of U.S. Diplomatic History > 1981-1989. http://www.state.gov/r/pa/ho/time/rd/.

Wolf, Amy F. "CRS Report for Congress: The Nuclear Posture Review: Overview and Emerging Issue." Congressional Research Service, The Library of Congress: 31 January 2002. http://fpc.state.gov/documents/organization/8039.pdf.